



BRIEFING NOTE TO THE MINISTER

CANADA'S CORE PUBLIC INFRASTRUCTURE SURVEY: FOURTH DATA RELEASE

(For Information)

ISSUE

- This briefing note provides an overview of the data release from Canada's Core Public Infrastructure Survey (CCPI) on wastewater and solid waste assets, which is scheduled to be released on November 14, 2018. As per the requirements of the *Statistics Act*, the data will be published in Statistics Canada (STC)'s *The Daily* publication (see Annex A), and therefore the information contained in this **advanced release should not be shared publicly**.

HIGHLIGHTS

- In 2016, over two-thirds of solid waste assets (69%) and wastewater sites¹ (64%) were reported to be in good or very good condition, as were over half of wastewater pipes and forcemains (57%). Additional highlights include:
 - The network of wastewater pipes in Canada spanned 142,878 km – enough to cross Canada 15 times at its widest point. In addition, there were 8,616 km of sanitary forcemains and 14,054 wastewater sites across Canada.
 - Most owners reported that their wastewater systems meet the *Federal Wastewater Systems Effluent Regulations*. Just over one quarter (28%) reported that their systems needed upgrading in order to comply with these quality standards.
 - There were 4,007 solid waste assets in Canada in 2016. Approximately half (52%) of these were waste disposal sites, which include engineered landfills, dump sites, closed sites, incinerators and energy from waste facilities.
 - Nearly two-fifths of respondents had a wastewater asset management plan (38%) and one-quarter had a solid waste asset management plan. Additionally, an approximate one-third of respondents intended to implement a plan for each of these asset classes in the future (37% and 36%, respectively).
- From a provincial and territorial (PT) comparison standpoint, the condition of wastewater assets in Nunavut were less favourable with only 19% of sites and 20% of pipes in good or very good condition.² In addition, asset owners in Yukon reported that they did not know the condition of over 90% of their wastewater pipes. Among provinces, there was considerable variation in the condition of wastewater pipes, with the percentage in good or very good condition ranging from 29% to 76%.

¹ Wastewater sites include treatment plants, lagoon systems, pump stations, lift stations, and storage tanks.

² It is worth noting that there is a relatively small number of water pipes in the North, thus this low proportion in good or very good condition is not reflective of a large stock of assets.

- PTs are not included within the scope of the solid waste data as ownership is negligible at this level of government. However, it should be noted that Yukon and Prince Edward Island governments do own some solid waste assets.
- Supplementary analyses, prepared for your information (i.e., not to be published), provide more information on the results of the CCPI survey and are found in Annex B and C.
- A CCPI Communications Strategy has been developed and was previously shared with your office.
- ADM level engagement with PT counterparts has taken place in addition to the sharing of data tables with PT statistical focal points. Relevant federal departments and other stakeholders (e.g., Environment and Climate Change Canada and the Federation of Canadian Municipalities) have also been made aware of the release and given access.

BACKGROUND

- The CCPI is INFC's first national survey regarding core public infrastructure. Data on stock, condition, performance and asset management, collected from the CCPI survey, will provide INFC with much needed baseline data and will support reporting on the *Investing in Canada Plan*.
- The asset classes targeted in the survey include: roads; bridges and tunnels; wastewater; potable water; storm water; culture, recreation, and sports facilities; solid waste; public transit; and public social and affordable housing. An additional questionnaire on asset management practices is included in the scope of the survey, and will be the final release of the CCPI rollout.
- To date, results and data from the CCPI have been published for roads, and bridge and tunnel assets (August 24) public social and affordable housing, and culture, recreation and sports facilities (October 9) as well as potable water and storm water assets (November 1).
- Other infrastructure-related surveys, such as Canada's Infrastructure Report Card (CIRC), have not provided a complete national picture of public infrastructure assets due to differences such as sample size, scope, and statistical rigor.

NEXT STEPS

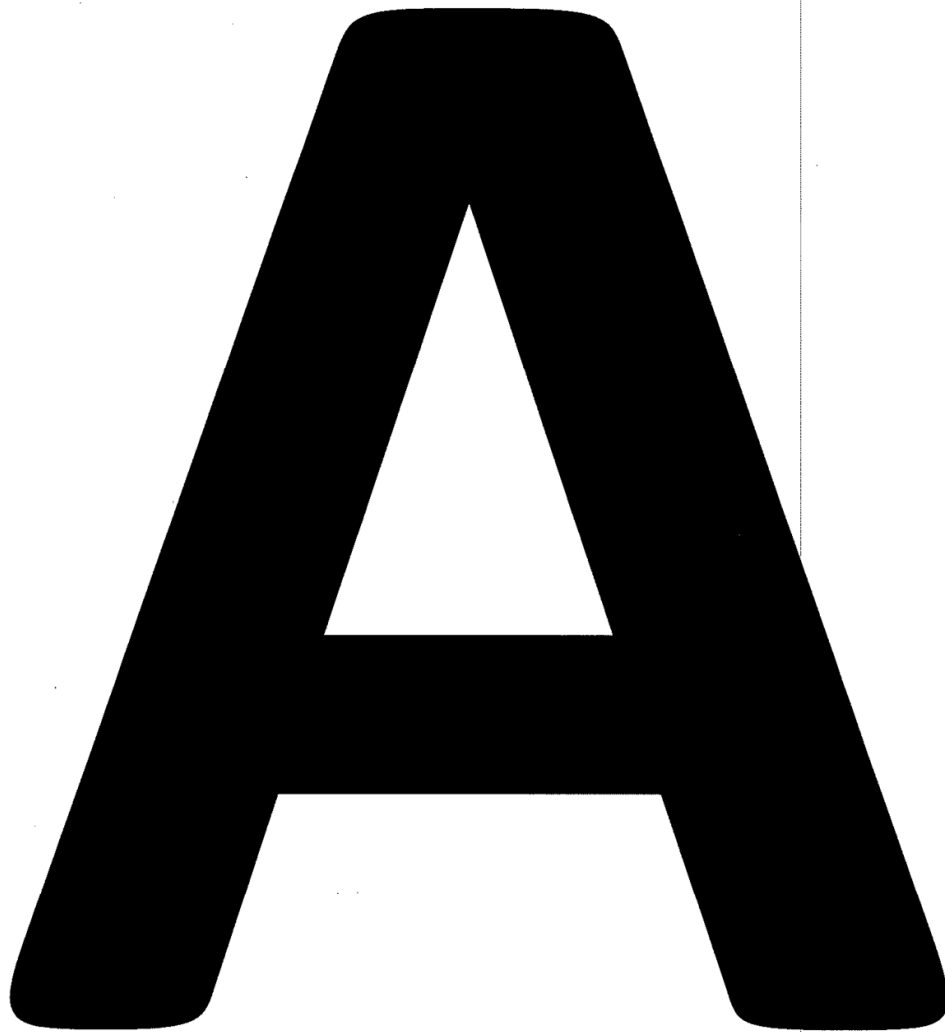
- Data for public transit assets and asset management practices will be released in between now and mid-December.

 Kelly Gillis
 Deputy Minister
 Infrastructure and Communities

 Date

Attachments:

Annex A – Statistics Canada's *The Daily* article – November 14, 2018
 Annex B – CCPI Wastewater Overview Deck
 Annex C – CCPI Solid Waste Overview Deck



Canada's Core Public Infrastructure Survey: Wastewater assets and solid waste assets, 2016

Municipal and regional governments have made a significant investment in facilities to deal with what Canadians flush, send down the drain, or throw out.

In 2016, regional and municipal governments in Canada owned over 1,200 wastewater treatment plants, more than 6,000 wastewater pump stations, nearly 5,000 wastewater lift stations, over 1,200 lagoon systems and almost 700 wastewater storage tanks. They also owned nearly 143,000 kilometres of sewer pipes—enough to cross Canada 15 times at its widest point — and about 9,000 kilometres of sanitary forcemains.

Solid waste assets owned by regional and municipal governments in 2016 consisted of about 1,200 transfer stations, close to 500 material recovery facilities, about 300 composting facilities, as well as 21 anaerobic digestion facilities. They also owned nearly 500 active engineered landfills, over 400 active dump sites, 13 incinerators, 14 energy from waste facilities, and about 1,200 closed engineered landfill and dump sites.

Statistics Canada, in partnership with Infrastructure Canada, has launched its first-ever catalogue of the state of the nation's infrastructure to provide statistical information on the stock, condition, performance and asset management strategies of Canada's core public infrastructure assets. This includes a wide variety of assets owned and operated by provincial, territorial, regional and municipal governments consisting of bridges and tunnels, roads, wastewater, stormwater, potable water and solid waste assets, as well as social and affordable housing, culture, recreation and sports facilities and public transit. The Daily is carrying a series of releases to present the information, each addressing a sub-group of these assets, with this being the fourth installment. This release presents findings on wastewater assets and solid waste assets, with two more releases planned for the coming weeks.

Wastewater assets

In 2016, regional and municipal governments in Canada owned 1,259 wastewater treatment facilities, 1,244 lagoon systems, 6,104 wastewater pump stations, 4,762 wastewater lift stations, and 685 wastewater storage tanks, collectively referred to as non-linear wastewater assets.

In addition, there were 142,878 kilometres of sewer pipes, most (80.6%) of which had a diameter that was smaller than 450 millimetres, as well as 8,616 kilometres of sanitary forcemains. Collectively these assets are referred to as linear wastewater assets.

Municipalities own over four-fifths of every type of wastewater asset

The predominant share of wastewater assets belonged to municipalities, which owned over 80% of all types of non-linear and linear wastewater assets.

Of municipally-owned assets, urban municipalities owned most wastewater pump stations (70.6%) and wastewater lift stations (54.1%), while they accounted for smaller shares of wastewater treatment plants (45.9%), wastewater storage tanks (34.9%), and lagoon systems (29.1%).

Additionally, urban municipalities outweighed their rural counterparts in terms of share of ownership of linear wastewater assets, owning over four-fifths of almost every type of municipally-owned sewer pipe, as well as over two-thirds (68.8%) of municipally-owned sanitary forcemains.

Less than half of every type of publicly-owned non-linear wastewater asset built after 1999

About two-fifths of wastewater storage tanks (42.8%), wastewater treatment plants (37.7%) and wastewater lift stations (36.8%) have been built post-1999, while over one-quarter of wastewater pump stations (28.7%) and lagoon systems (25.8%) have been completed in these same years.

For most types of sewer pipes, less than one-quarter of their length was completed after 1999, while slightly over two-fifths (43.8%) of sanitary forcemains were constructed after 1999.

The majority of wastewater assets reported to be in good or very good physical condition

Owners of the assets were asked to rate the overall physical condition of their wastewater assets using the following condition rating scale: very poor, poor, fair, good and very good. See note to readers for a detailed description of each condition rating.

Wastewater storage tanks (83.5%) were most frequently reported to be in good or very good physical condition. Between one-half and two-thirds of almost every other wastewater asset type were also reported as being in good or very good physical condition. Less than 15% of each asset type were reported to be in poor or very poor condition.

Among provinces and territories, 93.8% of wastewater treatment plants in Prince Edward Island were reported to be in good or very good condition, while 21.5% of wastewater treatment plants in Alberta were reported to be in poor or very poor condition. 96.5% of wastewater pump stations in Prince Edward Island were reported to be in good or very good condition, while 13.7% of wastewater pump stations in Ontario were reported to be in poor or very poor condition.

New wastewater pump stations expected to last 42 years

Among non-linear wastewater assets built in 2016, wastewater pump stations had the longest average expected useful life (42 years), while the other types were expected to last between 28 years and 31 years on average depending on the asset type.

Sewer pipes of diameter greater than 1,500 millimetres built in 2016 were reported, on average, to last an expected 100 years. Depending on asset type, other new linear wastewater assets built in 2016 were expected to last, on average, from 41 to 76 years.

About two-fifths of owners have a wastewater asset management plan

Slightly less than two-fifths (38.3%) of wastewater asset owners had a wastewater asset management plan in 2016. Close to one-half (48.2%) of owners without a plan expected to implement one within four years.

About one-quarter (23.0%) of owners that do have an asset management plan update it every year, nearly one-third (31.0%) update theirs every two to four years, while nearly two-fifths (37.5%) update their plan every five years or more.

Four-fifths (80.1%) of owners in Ontario had a wastewater asset management plan.

Solid waste assets

In 2016, regional and municipal governments in Canada owned 1,187 transfer stations, 458 material recovery facilities, 268 composting facilities, 21 anaerobic digestion facilities, 462 active engineered landfills, 412 active dump sites, 13 incinerators, 14 energy from waste facilities, and 1,172 closed engineered landfill and dump sites.

Municipalities own over three-quarters of each type of solid waste asset

Municipalities owned over three-quarters of every type of solid waste asset, with the exception of incinerators (15.4%) and energy from waste facilities (21.4%).

Rural municipalities owned the majority of most types of municipally-owned solid waste assets, except for closed sites and incinerators, where about half of each were owned by urban municipalities, and energy from waste facilities, which were all owned by urban municipalities.

Most landfills, dump sites, and closed sites built before 2000

Over four-fifths of closed engineered landfills and dump sites (82.9%) and active dump sites (81.2%), and about two-thirds (64.9%) of active engineered landfills were built prior to 2000.

Conversely, 89.8% of anaerobic digestion facilities, 84.3% of energy from waste facilities, 77.3% of composting facilities, 76.4% of incinerators, 72.1% of materials recovery facilities and 67.3% of transfer stations were built from 2000 onwards.

Over two-thirds of every type of publicly-owned solid waste asset in good or very good physical condition

Owners of the assets were asked to rate the overall physical condition of their solid waste assets using the following condition rating scale: very poor, poor, fair, good and very good. See note to readers for a detailed description of each condition rating.

Anaerobic digestion facilities (94.6%), incinerators (84.2%), and materials recovery facilities (80.4%) were most often reported to be in good or very good physical condition.

About three-quarters of energy from waste facilities (76.4%), engineered landfills (74.9%), composting facilities (71.3%), and transfer stations (71.0%) were also reported to be in good or very good physical state, while more than half of closed sites (62.4%) and dump sites (51.6%) were reported to be in good or very good physical condition.

Less than 13% of solid waste assets – whatever the type - were reported to be in poor or very poor physical condition.

Among provinces and territories, dump sites were most often reported to be in good or very condition in Nova Scotia (75.0%) and British Columbia (73.7%), and were most often to be reported in poor or very poor condition in Nunavut (53.5%).

New energy from waste facilities and new engineered landfills expected to have longest average useful lives

Among solid waste assets built in 2016, energy from waste facilities had the longest average expected useful life, at 28 years, followed by engineered landfills, at 27 years

In contrast, composting facilities that were built in 2016 were expected, on average, to have the shortest expected useful life at 11 years, while every other type of solid waste asset completed in 2016 was expected to last, on average, between 15 years and 20 years, depending on the asset type.

Nearly three-quarters of owners have no solid waste asset management plan

In 2016, close to three-quarters (74.8%) of owners did not have a solid waste asset management plan. Over one-third (35.2%) of owners without a plan expected to implement one within four years, while 7.3% were planning to implement one in five or more years.

More than one-quarter (25.3%) of owners without a plan did not intend to implement one, while more than one-quarter (26.0%) reported that they did not know when they would implement one.

Almost two-thirds (65.9%) of owners with a solid waste asset management plan updated their plan every one to four years. Over one-quarter (25.4%) of owners updated their solid waste asset management plan every five or more years.

Among provinces, 43.7% of owners in Ontario had a solid waste asset management plan.

Note to readers

Canada's Core Public Infrastructure Survey 2016 was conducted in partnership with Infrastructure Canada.

Data are based on responses from approximately 1,500 government organizations selected from Statistics Canada's Business Register, the central repository of information on public and private organizations operating in Canada. It is used as the principal frame for most of Statistics Canada's economic statistical programs. The following organizations are included in the survey:

- Provincial and territorial departments and ministries responsible for roads; bridges and tunnels; public social and affordable housing; culture, recreation and sports; and, public transit
- Regional governments within the urban core
- Urban municipalities
- Rural municipalities with at least 1,000 residents.

The survey results cover nine asset types (bridges and tunnels; culture, recreation and sports facilities; potable water; public transit; roads; public social and affordable housing; solid waste; storm water; wastewater) as well as information on asset management practices, 13 geographic regions, five municipality sizes and urban/rural municipalities.

Throughout this release, the term publicly-owned refers to an asset being owned or leased by the regional and municipal orders of government.

Respondents were asked to rate the overall physical condition of their assets by using the following condition rating scale:

Very poor: The asset is unfit for sustained service. Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable.

Poor: Increasing potential of affecting service. The asset is approaching end of service life; condition below standard and a large portion of system exhibits significant deterioration.

Fair: The asset requires attention. The assets show signs of deterioration and some elements exhibit deficiencies.

Good: The asset is adequate. Acceptable, generally within mid stage of expected service life.

Very good: Asset is fit for the future. Well maintained, good condition, new or recently rehabilitated.

An **asset management plan** defines how a group of assets is to be managed over a period of time. The asset management plan describes the characteristics and condition of infrastructure assets, the levels of service expected from them, planned actions to ensure the assets are providing the expected level of service, and financing strategies to implement the planned actions.

Information on other asset types will be released over the coming weeks.

Wastewater assets

Non-linear wastewater assets include wastewater treatment plants, lagoon systems, wastewater pump stations, wastewater lift stations and wastewater storage tanks.

Linear wastewater assets include sewer pipes and sanitary force mains

Solid waste assets

Collection assets: Waste, recyclable and organic materials collection methods include curbside collection, back door pick-ups, and automated collection. The waste, recyclable or organic materials may be taken to an intermediate site or to a final disposal site.

Transfer stations include facilities at which wastes transported by vehicles involved in collection are transferred to other vehicles that will transport the wastes to a disposal (landfill or incinerator) or recycling facility.

Waste diversion assets include composting facilities, materials recovery facilities, anaerobic digestion facilities.

Composting: A managed, biological process through which organic matter is degraded under aerobic conditions to a relatively stable, humus-like material called compost.

Material recovery facility: A facility in which recyclable materials are removed from waste, or mixed recyclable materials are sorted into distinct categories and prepared for shipment.

Anaerobic digestion: A controlled and managed biological process that uses microorganisms to break down organic material in the absence of oxygen.

Waste disposal assets include engineered landfills (active), dump sites (active), closed sites (inactive engineered landfills and dumps), incinerators and energy from waste facilities.

Engineered landfill: A landfill designed to meet or exceed jurisdiction of authority requirements for the protection of the environment and human health. The design incorporates both the attributes of the natural environment and supplements them with the necessary engineered systems to achieve the required level of protection.

Incineration: The burning of waste in an incinerator is essentially a rapid oxidation process that generates heat and converts the waste to the gaseous products of combustion, namely carbon dioxide and water vapour, which are released to the atmosphere.

Energy from waste: Technologies that process waste using high temperatures to reduce the quantity of material requiring disposal, stabilize the material requiring disposal, and recover energy and potentially material resources.

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CCPI: Results on wastewater

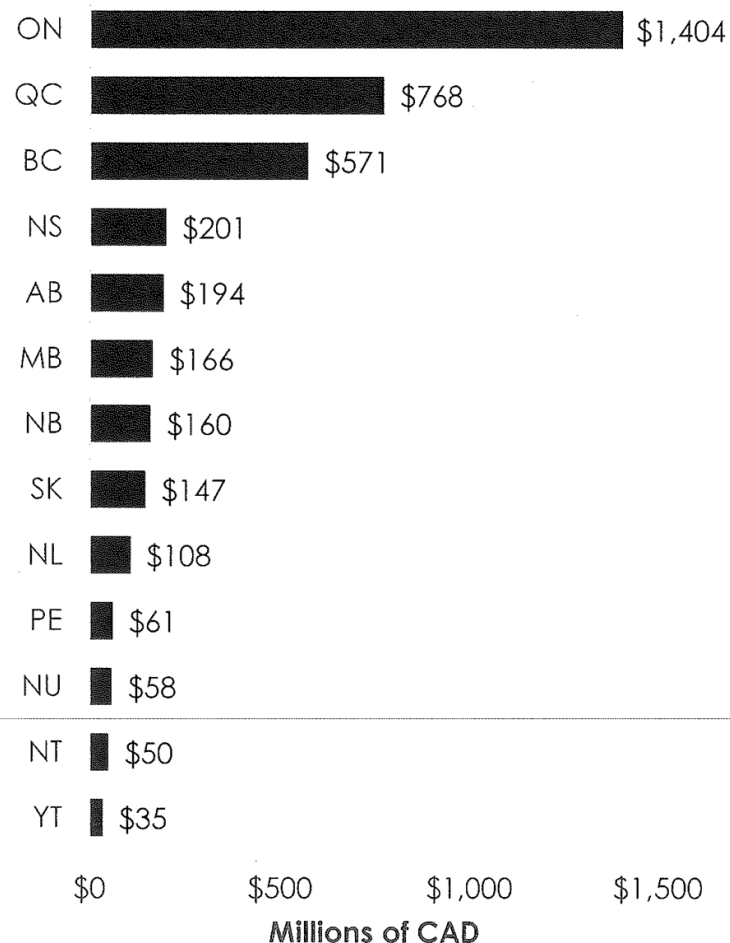


Context: The Federal Contribution to Wastewater

Although **wastewater assets are owned by regional and municipal governments**, INFC plays an important role in funding these assets.

- INFC has allocated **over \$3.9 billion** to wastewater assets since 2005, contributing to over one-third of total eligible costs of projects funded.
- Investing in wastewater infrastructure supports the improvement of environmental quality, a key outcome of the *Investing in Canada* plan.
- Through the *Investing in Canada* plan's Clean Water and Wastewater Fund (CWWF), **\$835 million** has been allocated to wastewater projects.

INFC investment allocations in wastewater projects since 2005



About the Wastewater Survey

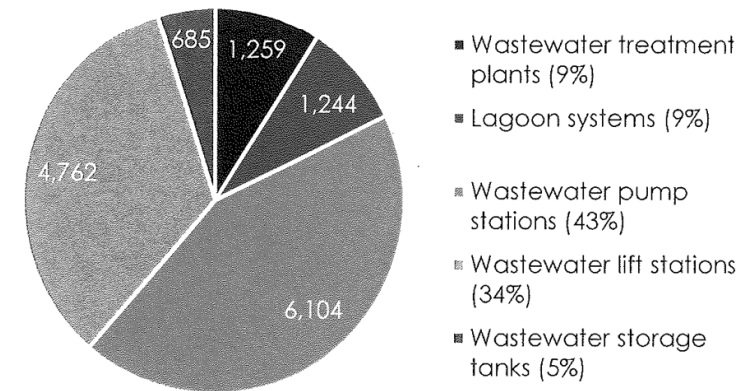
- A total of 41 questions were asked to respondents, which included all urban municipalities and regional governments, and a large sample of smaller municipalities, representing **98% of Canada's population**. There were an estimated 1,591 wastewater asset owners.
- Respondents' interest in CCPI was very high, which was reflected by its exceptional **response rate of over 90%**.
- The survey collected comprehensive data on the **stock, condition and performance** of Canada's wastewater assets. The survey separates these assets into **subcategories**:

Wastewater	
Non-linear assets "sites"	<ul style="list-style-type: none"> • Treatment plants – <i>including sludge handling plants</i> • Lagoon systems • Pump stations • Lift stations
Linear assets "pipes and forcemains"	<ul style="list-style-type: none"> • Sewer pipes – <i>diameter < 450mm; diameter ≥ 450mm to < 1,500mm; diameter ≥ 1,500mm; unknown diameter</i> • Sanitary forcemains – <i>pressurized sewer pipes that convey wastewater where gravity sewage flow is not possible</i>

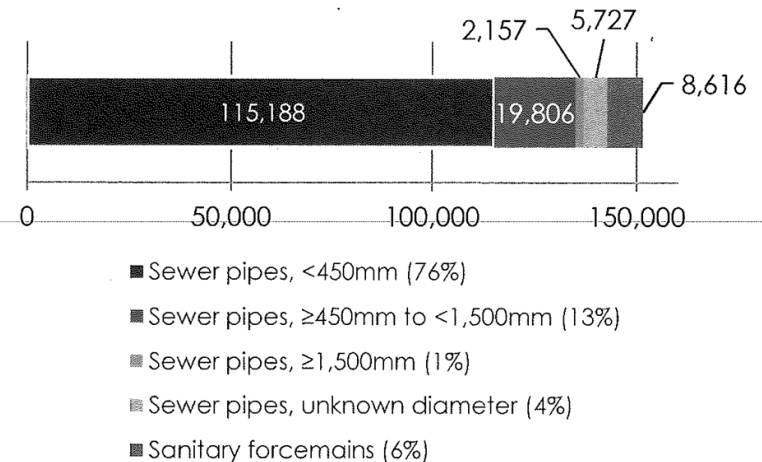
Canada has an extensive wastewater network

- In 2016, Canada had **14,054** non-linear wastewater assets ("sites").
 - The most common types of sites were pump stations and lift stations, comprising 43% and 34% of total assets respectively.
 - Most (91%) of these sites were municipally owned.
 - Of municipally owned sites, 57% were owned by urban municipalities.
- These assets were supported by a **151,494 km** network of sewer pipes and sanitary forcemains.
 - Sewer pipes made up the majority (94%) of the network, with the most common type of pipe being less than 450mm in diameter.
 - As with sites, the majority (88%) were municipally owned.
 - Of municipally owned assets, 80% of the network was owned by urban municipalities.

Wastewater sites in Canada, 2016



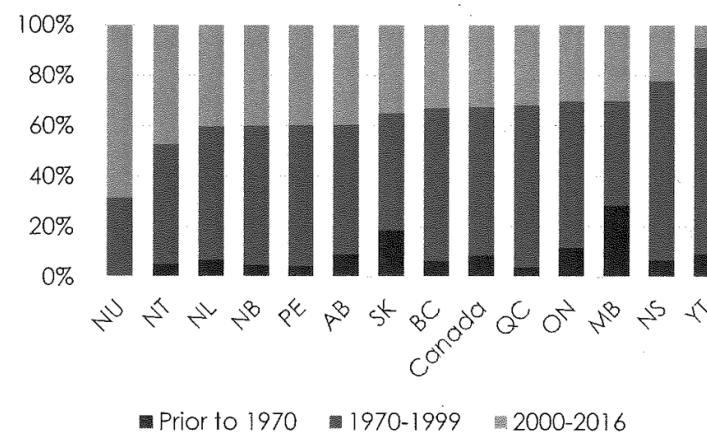
Pipes and Forcemains in Canada (in km), 2016



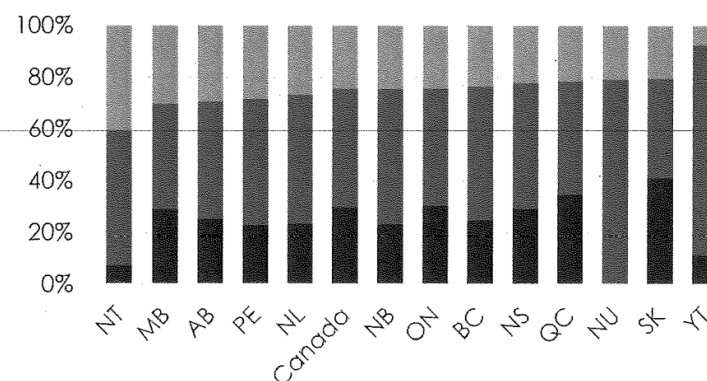
Wastewater sites are newer than pipes and forcemains

- **One-third** of wastewater sites in Canada were built from 2000 onward.
 - The highest share of sites built during this period was in **Nunavut** (69%) while the lowest share was in the **Yukon** (9%).
 - **Wastewater pump stations and lagoon systems** tended to be older than other types of sites, with around three quarters built before 2000.
- Almost **one quarter** (24%) of pipes and forcemains were built from 2000 onward.
 - The highest share of pipes and forcemains built during this period was in the **Northwest Territories** (41%) while the lowest share was in the **Yukon** (8%).
- Relative to the Canadian average, **Yukon, Nova Scotia, Quebec** and **Ontario** had a lower share of wastewater assets built since 2000.
- In 2016, **286 new wastewater sites** and **1,888 new kilometers of pipes and forcemains** were built (2% and 1% of the totals, respectively).

Year of completed construction of wastewater sites, 2016

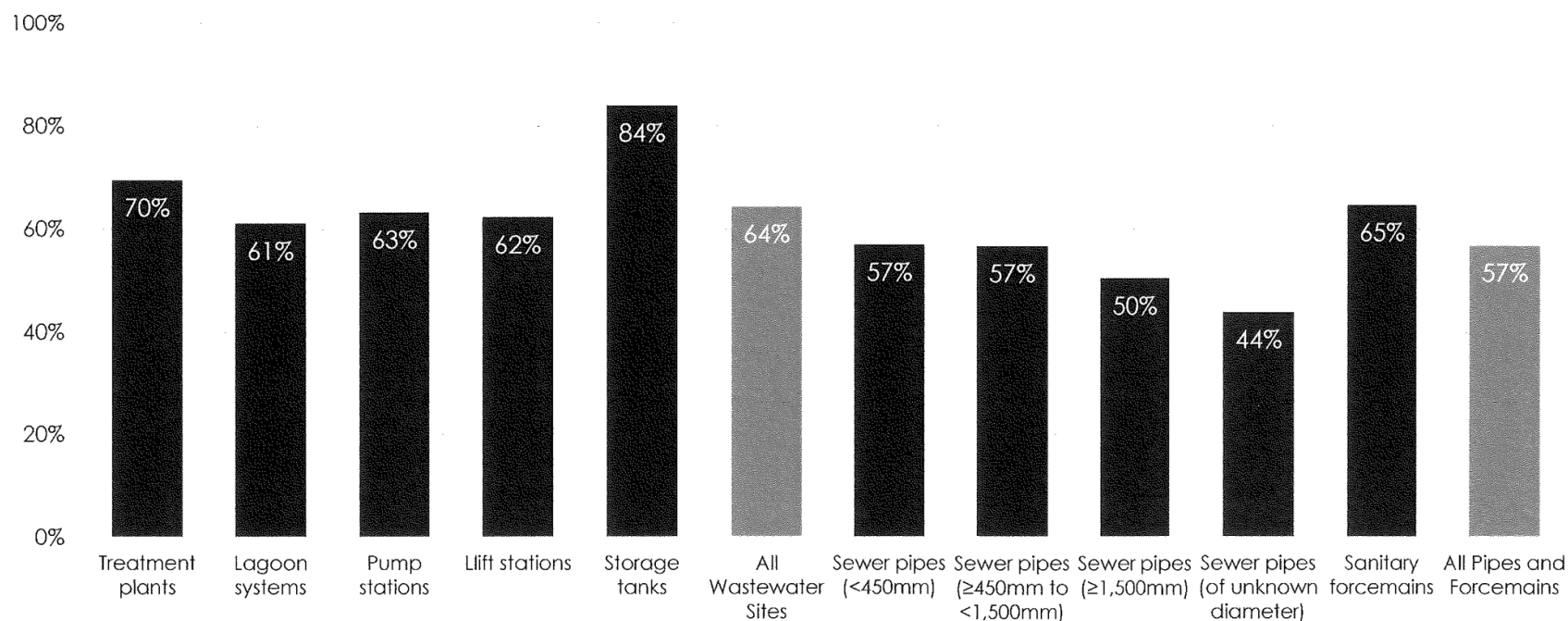


Year of completed construction of pipes and forcemains, 2016



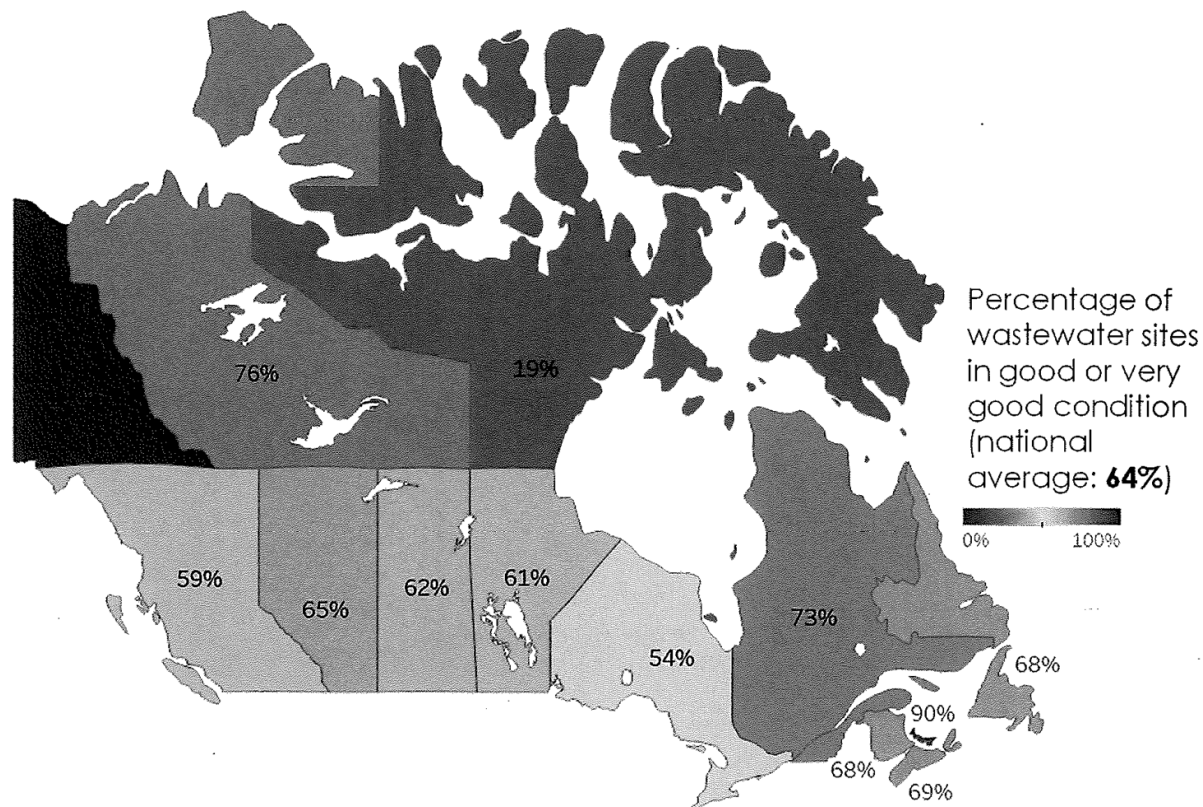
Nationally, most wastewater assets are in good or very good condition...

Percent of wastewater assets in good or very good condition, 2016



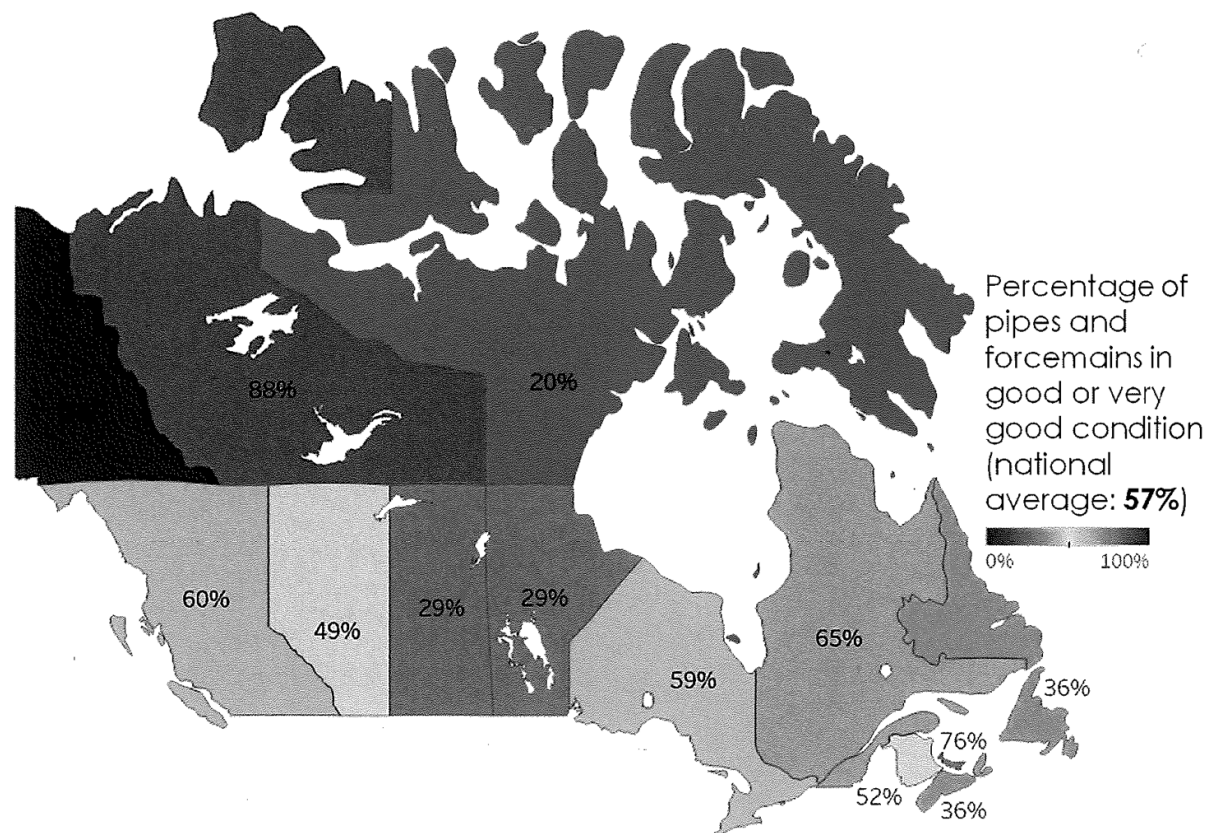
Assets	Very good or good	Fair	Poor or very poor	Do not know
Sites (non-linear)	64%	21%	10%	5%
Pipes & forcemains (linear)	57%	18%	11%	14%

...but there is some variation in the condition of wastewater sites between PTs...



- Wastewater sites in the **Yukon, Prince Edward Island** and the **Northwest Territories** were most likely to be in **good or very good** condition.
- **Manitoba, Ontario** and **Nunavut** had the highest shares of wastewater sites in **poor or very poor** condition.

...and even more variation for pipes and forcemains



- Pipes and forcemains in the **Northwest Territories, Prince Edward Island** and **Quebec** were most likely to be in **good or very good** condition.
- **Manitoba** and **Nova Scotia** had the highest share of pipes and forcemains in **poor or very poor** condition.

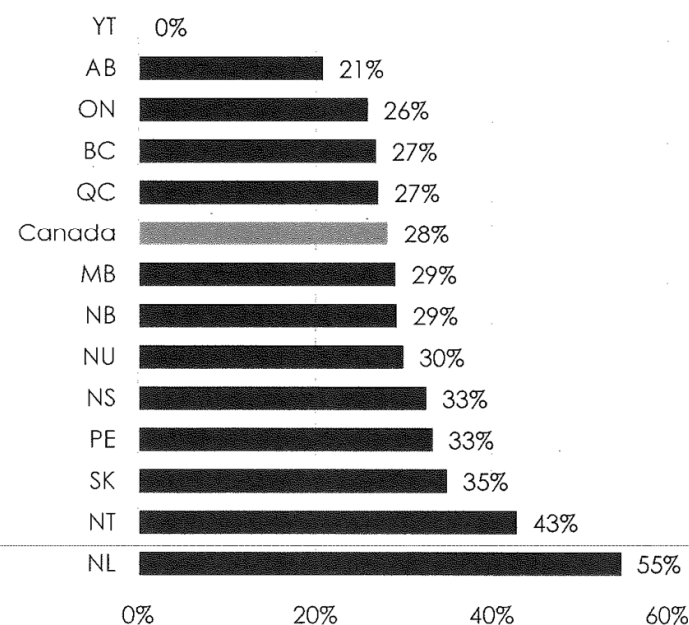
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*In the Yukon, the condition of 90% of pipes and forcemains was reported as "Do Not Know"

Most wastewater systems meet effluent quality standards

- Nationally, over **one-quarter** (28%) of asset owners reported that their wastewater system needed to be upgraded in order to meet the effluent quality standards of the *Federal Wastewater Systems Effluent Regulations*.
- The **Yukon** (0%), **Alberta** (21%) and **Ontario** (26%) had the lowest shares of asset owners responding that they needed to upgrade their systems to meet standards.
- Newfoundland and Labrador** (55%), the **Northwest Territories** (43%) and **Saskatchewan** (35%) had the highest share of asset owners responding that they needed to upgrade their systems to meet standards.
- Responses were similar between different types of owners (municipal or regional governments) and between urban and rural municipalities.

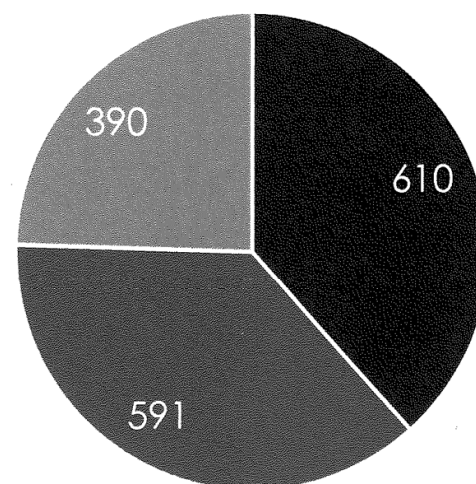
Percent of asset owners that need to upgrade their wastewater systems to meet effluent quality standards



Most respondents have plans in place or intend to implement one, to manage their wastewater assets

- Nationally, **three-quarters** of respondents either had wastewater asset management plans (38%) or planned to implement one (37%).
- Wastewater asset management plans are most prevalent in **Ontario** (80%), **British Columbia** (43%) and **Nunavut** (40%).
- Wastewater asset management plans are the least prevalent in the **Yukon** (0%), **the Northwest Territories** (17%) and **Nova Scotia** (17%).
- The **Northwest Territories** (67%), **Nova Scotia** (65%) and **New Brunswick** (60%) had the highest share of asset owners planning to implement wastewater asset management plans.
- Urban municipalities** (48%) were more likely than **rural municipalities** (33%) to have wastewater asset management plans.

Prevalence of wastewater asset management planning, 2016



- Owners with wastewater asset management plans (38%)
- Owners planning to implement an asset management plan (37%)
- Owners without plans to implement an asset management plan or do not know if they will (25%)

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CCPI: Results on solid waste

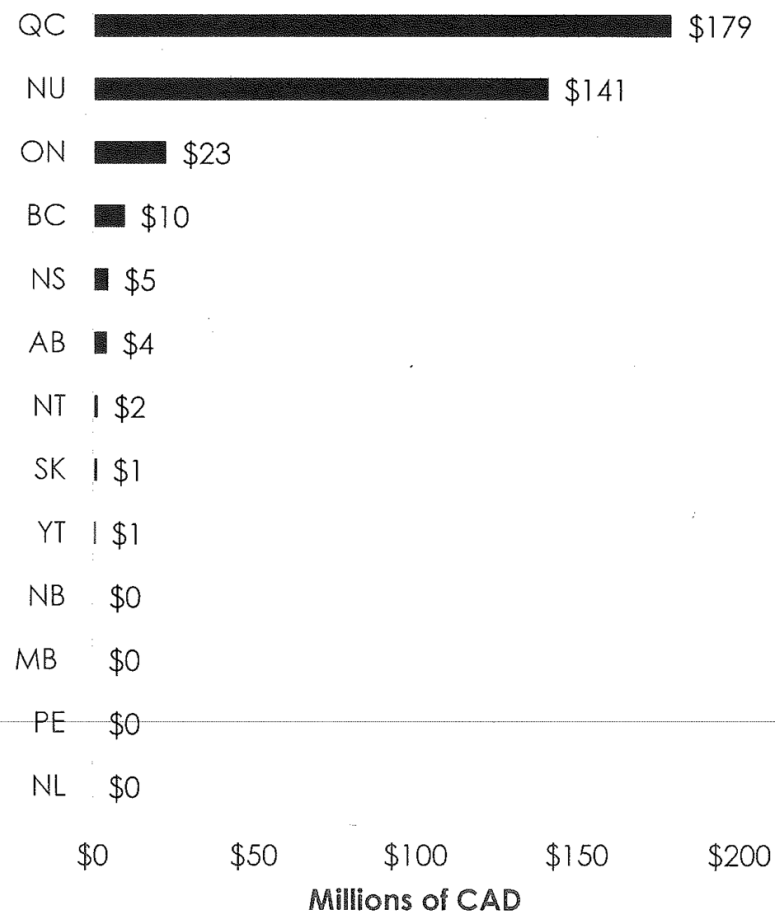


Context: The Federal Contribution to Solid Waste

Although **solid waste assets are almost entirely owned by provincial/territorial, regional and municipal governments**, INFC plays an important role in funding these assets.

- INFC has allocated **\$366 million** through various programs to solid waste management projects since 2005, contributing to 38% of total eligible costs of projects funded.
 - Most of this funding (87%) has been directed towards projects in **Quebec and Nunavut**.
- Investments in solid waste infrastructure support the **improvement of environmental quality**, a key outcome of the *Investing in Canada* plan.

INFC investment allocations in solid waste management since 2005



About the Solid Waste Survey

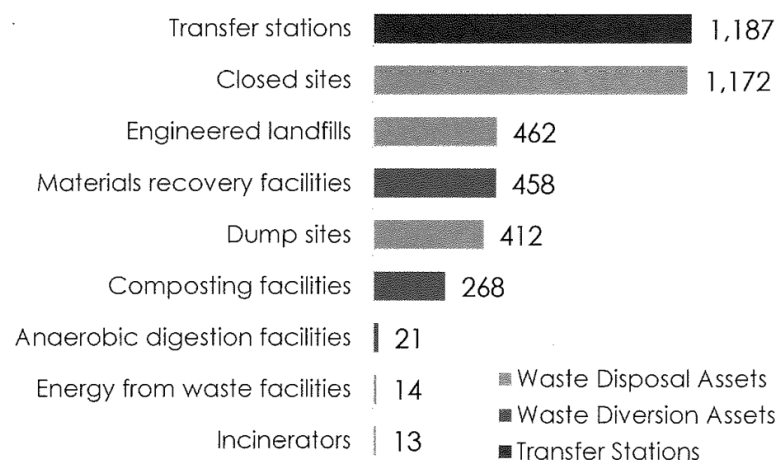
- A total of 22 questions were asked to respondents, which included all urban and regional municipalities, and a large sample of smaller municipalities, representing **98% of Canada's population**. There were an estimated 1,049 solid waste asset owners.
- Respondents' interest in CCPI was very high, which was reflected by its exceptional **response rate of over 90%**.
- The survey collected comprehensive data on the **stock, condition and performance** of Canada's solid waste assets. The survey separates these assets into **subcategories**:

Solid Waste	
Transfer stations	<ul style="list-style-type: none">• Waste transfer sites
Waste diversion assets	<ul style="list-style-type: none">• Composting facilities• Materials recovery facilities• Anaerobic digestion facilities
Waste disposal assets	<ul style="list-style-type: none">• Engineered landfills• Dump sites• Closed sites (<i>inactive engineered landfills and dumps</i>)• Incinerators• Energy from waste facilities

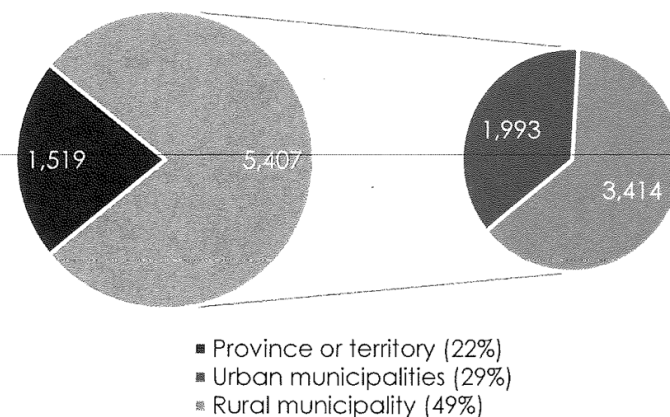
Canada has over 4,000 solid waste assets

- In 2016, Canada had **4,007** solid waste assets
 - Approximately half of these assets (2,073) were waste disposal sites (engineered landfills, dump sites, closed sites, incinerators and energy from waste facilities).
- Organizations in **Ontario** owned 36% of all solid waste assets in Canada, followed by **Alberta** (18%), **Manitoba** (13%), **British Columbia** (11%) and **Quebec** (10%).
- Over three-quarters (78%) of Canada's solid waste assets were **municipally owned**.
 - However, **incinerators** (85%) and **energy from waste facilities** (79%) were predominantly regionally owned.
 - Rural municipalities owned almost half (49%) of all solid waste assets, while urban municipalities owned nearly a third (29%).
 - Rural municipalities owned more of each type of asset than their urban counterparts, except for **closed sites** and **incinerators** where urban areas owned the majority.

Solid waste assets in Canada, 2016



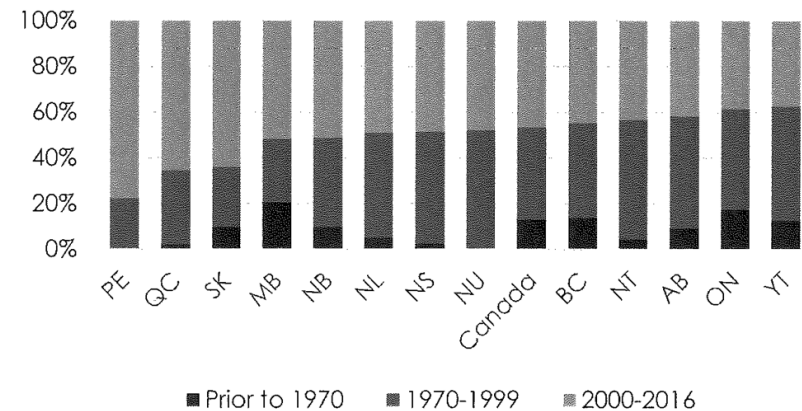
Ownership of solid waste assets, 2016



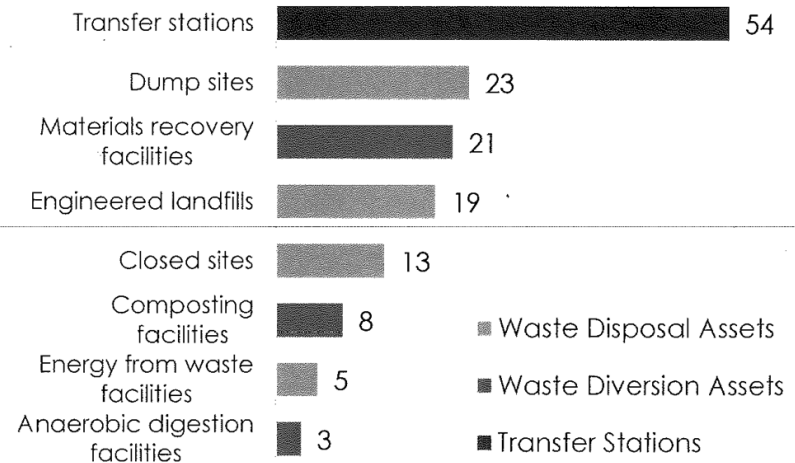
Almost half of all solid waste assets built after 2000

- **47%** of all solid waste assets were built from 2000 onward.
 - The highest share of solid waste assets built **after 2000** was in **PEI** (78%) while the lowest share was in the **Yukon** (38%).
 - **Waste disposal assets** tended to be older than other assets, with 78% built before 2000.
- In 2016, **146 new solid waste assets** were built, comprising almost **4%** of all solid waste assets.
 - **Manitoba** (43), **Ontario** (38) and **Alberta** (21) had the greatest number of new assets.
 - Of all solid waste assets, **transfer stations** (54), **dump sites** (23) and **materials recovery facilities** (21) had the greatest numbers of new assets.

Year of completed construction, solid waste assets

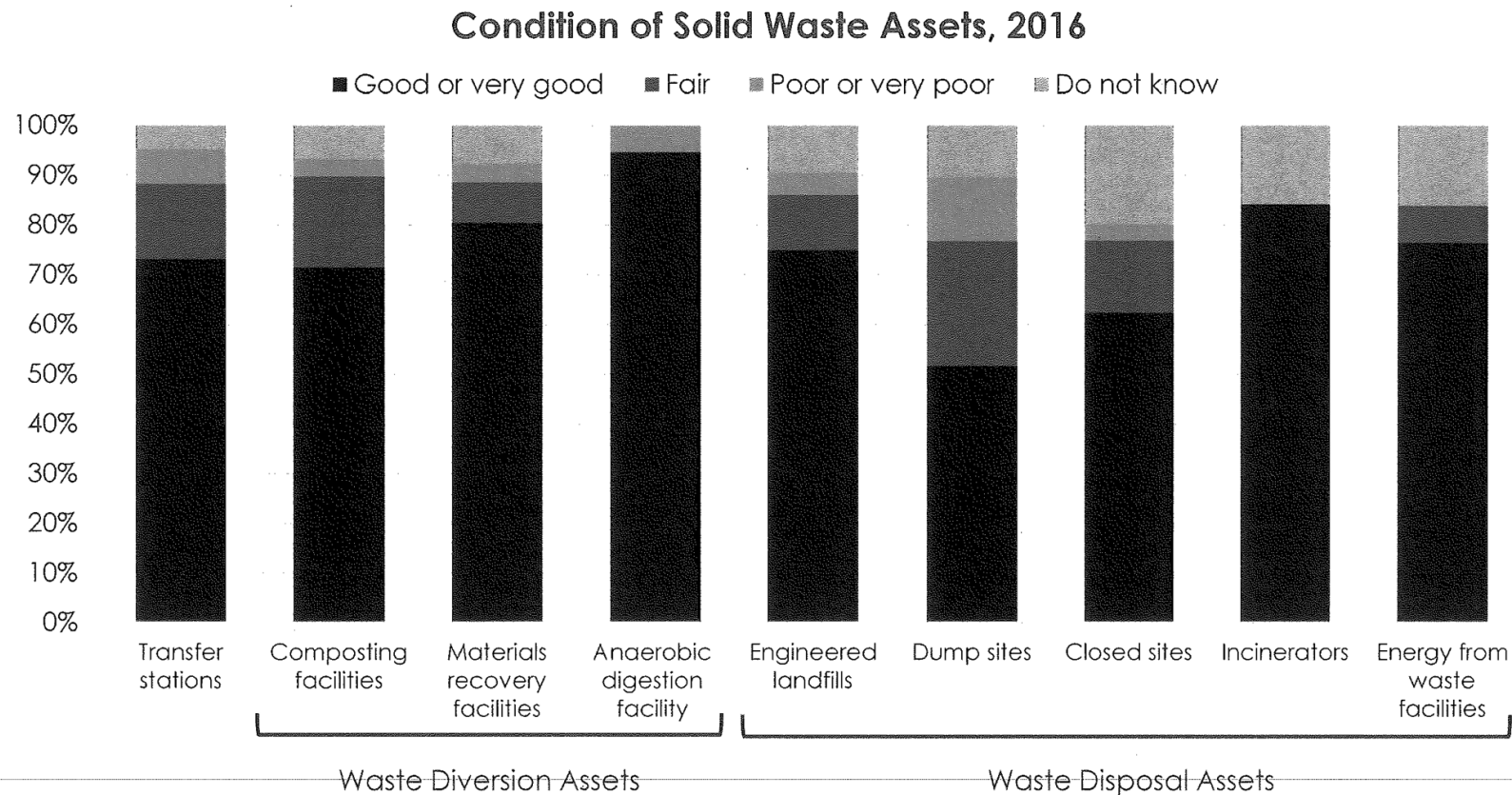


146 solid waste assets were built in 2016¹



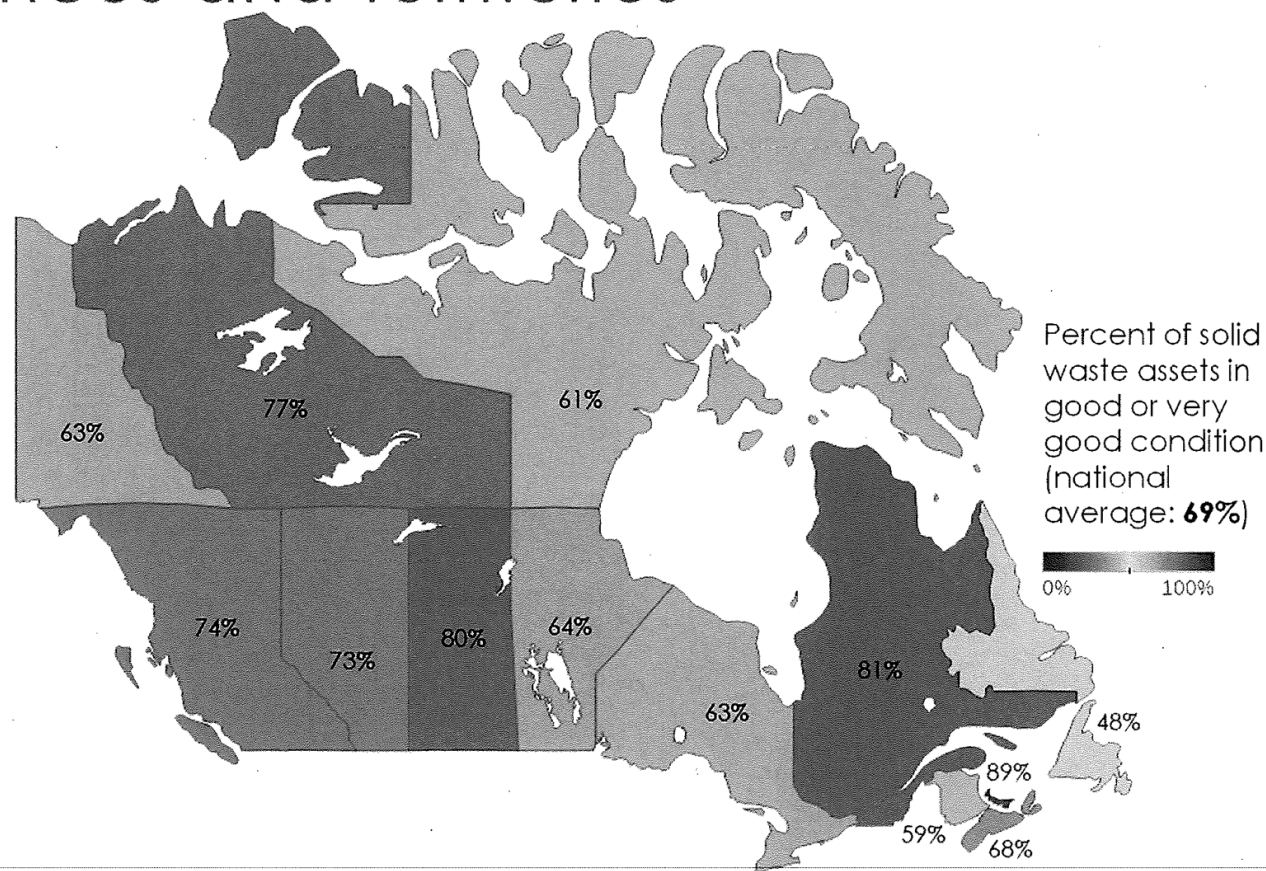
5 ¹There were no incinerators built in 2016.

Nationally, most solid waste are in good or very good condition...



- Nationally, **74%** of transfer stations, **78%** of waste diversion facilities and **63%** of waste disposal assets were in good or very good condition.

...with some variation in condition among provinces and territories



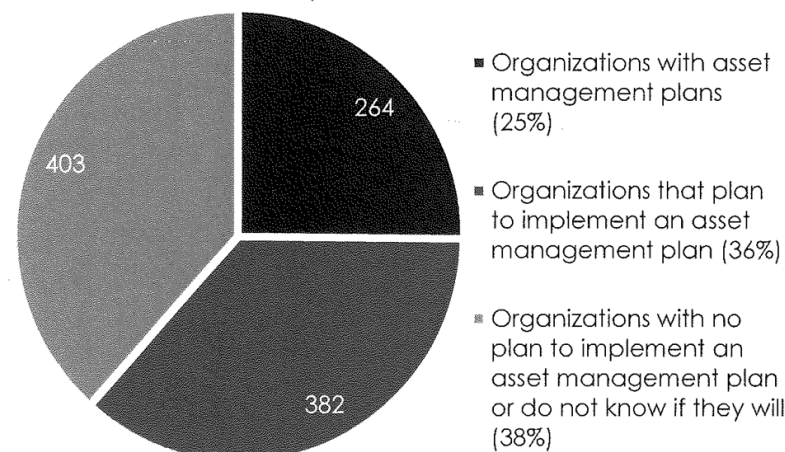
- Assets in **PEI, Quebec** and **Saskatchewan** were most likely to be in good or very good condition, while assets in **Newfoundland and Labrador** were least likely to be in good or very good condition.
- In terms of assets in poor or very poor condition, **Nunavut, Manitoba** and **Ontario** had the highest shares of assets in these conditions.

7 * The condition of 24% of solid waste assets in Newfoundland and Labrador was reported as "Do Not Know"

Only a quarter of respondents have plans in place to manage their solid waste assets

- Nationally, a relatively low share of owners (25%) **had solid waste asset management plans**. A further 36% of owners did not have an asset management plan, but intended to implement one in the future.
- Solid waste asset management plans were most common in the **Northwest Territories** (67%), **Ontario** (44%) and **Nunavut** (33%). They were least common in the **Yukon** (0%), **PEI** (0%) and **Newfoundland and Labrador** (5%).
- Urban** municipalities (25%) and **rural** municipalities (24%) were almost equally likely to have solid waste asset management plans.
- Of assets built in 2016, closed sites had by far the **longest expected useful life** (100 years). The expected useful life of other solid waste assets ranged from 11 to 28 years.

Prevalence of solid waste asset management planning, 2016



Expected useful life of new assets built in 2016

